

Application No. 10/552,396
Appeal Brief Dated: December 23, 2010

MAT-8725US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No: 10/552,396
Applicant: Koji Akiyama et al.
Filed: October 7, 2005
Title: FANNING METHOD AND FAN DEVICE
OF PLASMA DISPLAY PANEL
TC/A.U.: 2889
Examiner: Britt D. Hanley
Confirmation No.: 4763
Notice of Appeal Filed: September 22, 2010
Docket No.: MAT-8725US

FAX RECEIVED**DEC 23 2010****OFFICE OF PETITIONS****APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

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Commissioner for Patents
P. O. Box 1450
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Sir:

Responsive to the Notice of Panel Decision dated November 23, 2010,
Appellants are submitting this Appeal Brief for the above-identified application.

This Brief is presented in the format required by 37 C.F.R. § 41.37, in order to facilitate review by the Board. In compliance with 37 C.F.R. § 41.37(a)(1), this Brief is being filed within the time allowed for response to the action from which the Appeal was taken or within two months from the date of the Notice of Appeal, whichever is later.

The fees for filing a Brief in support of an Appeal under 37 C.F.R. § 41.20(b)(2) together with any extension fee required in connection with the filing of this Brief, are provided herewith.

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I. REAL PARTY IN INTEREST

The real Party In Interest in this matter is Panasonic Corporation by virtue of an assignment recorded on August 9, 2006, at Reel/Frame 018077/0960.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences which will directly affect or be directly affected by, or have a bearing on the Board's decision in the pending Appeal.

III. STATUS OF CLAIMS

Claims 1-16 are pending and stand rejected. Claims 1-16 are appealed.

IV. STATUS OF AMENDMENTS

The present application is under Final Rejection. All of the previous amendments have been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to an aging method for performing an aging of a plasma display panel and an aging device of a plasma display panel. Provided next is a summary of the subject matter for each of independent claims 1, 6, 15 and 16.

Independent Claim 1

As illustrated by Appellants' Figs. 1 and 2, Appellants' aging method for performing an aging of a plasma display panel 12 uses an aging device including an air blowing means (fans 18a-18f) for cooling a plasma display panel 12. The method includes positioning the air blowing means 18a-18f above a front-face surface of the plasma display panel 12 to direct air (illustrated by the arrows in Fig. 2) to the front-face surface in a direction away from parallel relative to the front-face surface. (Page 6, lines 5-15 and Figs. 1 and 2 of the original specification.) The

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method also includes cooling the plasma display panel during the aging while changing at least one of the direction (Figs. 5-7C) or amount of air blown (page 8, lines 10-27 and Fig. 2) from the air blowing means with time. (Changing the direction is described at page 11, line 26-page 12, line 20 and Fig. 5; page 13, lines 4-22 and Fig. 6; and page 14, line 17-page 15, line 6 and Figs. 7A-7C.) At least a portion of the air blowing means 18a-18f is disposed within an area defined by the perimeter of the plasma display panel 12. (Figs. 1 and 2.)

Independent Claim 6

As illustrated by Appellants' Figs. 1 and 2, Appellants' aging device of a plasma display panel 12 includes an air blowing means (fans 18a-18f) for cooling a plasma display panel 12 and an aging power source 16 for applying a predetermined voltage to the plasma display panel to cause an aging electric discharge. The air blowing means 18a-18f is positioned above a front-face surface of the plasma display panel 12 to direct air (illustrated by the arrows in Fig. 2) to the front-face surface in a direction away from parallel relative to the front-face surface. (Page 5, line 24-page 6, line 15 and Figs. 1 and 2.)

The air blowing means is a means for changing, during an aging, at least one of an air blowing direction (Figs. 5-7C) or an air blowing amount (page 8, lines 10-27 and Fig. 2) with time while cooling the plasma display panel. (Changing the direction is described at page 11, line 26-page 12, line 20 and Fig. 5; page 13, lines 4-22 and Fig. 6; and page 14, line 17-page 15, line 6 and Figs. 7A-7C.) At least a portion of the air blowing means 18a-18f is disposed within an area defined by the perimeter of the plasma display panel 12. (Figs. 1 and 2.)

Independent Claim 15

As illustrated by Appellants' Figs. 1 and 2, Appellants' aging method for performing an aging of a plasma display panel 12 uses an aging device including an air blowing means (fans 18a-18f) for cooling a plasma display panel 12. The method includes positioning the air blowing means 18a-18f above a front-face surface of the plasma display panel 12 to direct air (illustrated by the arrows in Fig. 2) to the front-face surface in a direction away from parallel relative to the front-face surface. (Page 6, lines 5-15 and Figs. 1 and 2.) The method also includes cooling

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the plasma display panel 12 during the aging while changing at least one of the direction (Figs. 5-7C) or amount of air blown (page 8, lines 10-27 and Fig. 2) from the air blowing means with time. (Changing the direction is described at page 11, line 26-page 12, line 20 and Fig. 5; page 13, lines 4-22 and Fig. 6; and page 14, line 17-page 15, line 6 and Figs. 7A-7C.) A vector normal to the front-face surface of the plasma display panel 12 intersects the air blowing means. (Figs. 1 and 2.)

Independent Claim 16

As illustrated by Appellants' Figs. 1 and 2, Appellants' aging device of a plasma display panel 12 includes an air blowing means (fans 18a-18f) for cooling a plasma display panel 12 and an aging power source 16 for applying a predetermined voltage to the plasma display panel 12 to cause an aging electric discharge. The air blowing means 18a-18f being positioned above a front-face surface of the plasma display panel 12 to direct air (illustrated by the arrows in Fig. 2) to the front-face surface in a direction away from parallel relative to the front-face surface. (Page 5, line 24-page 6, line 15 and Figs. 1 and 2.)

The air blowing means 18a-18f is a means for changing, during an aging, at least one of an air blowing direction (Figs. 5-7C) or an air blowing amount (page 8, lines 10-27 and Fig. 2) with time while cooling the plasma display panel. (Changing the direction is described at page 11, line 26-page 12, line 20 and Fig. 5; page 13, lines 4-22 and Fig. 6; and page 14, line 17-page 15, line 6 and Figs. 7A-7C.) A vector normal to the front-face surface of the plasma display panel intersects the air blowing means. (Figs. 1 and 2.)

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-16 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Shinji et al. (JP 11-213891) (referred to herein as Shinji) in view of Oono (JP 3-75596) and Kazuya et al. (JP 07-162180) (referred to herein as Kazuya).

VII. ARGUMENT

A. Rejection of claims 1-5, 11 and 12 under 35 U.S.C. § 103(a) as being unpatentable over Shinji in view of Oono and Kazuya.

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The aforementioned rejection is respectfully traversed for at least the reasons set forth below.

Appellants' claim 1 relate to an aging method for performing an aging of a plasma display panel. Particularly, independent claim 1, recites the following:

... positioning the air blowing means above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface ...

cooling the plasma display panel during the aging while changing at least one of the direction or amount of air blown from the air blowing means with time...

... at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel.
(Emphasis Added)

Appellants' claim 1 includes features neither disclosed nor suggested by the cited art. Namely, positioning air blowing means above a front-face surface of a plasma display panel to direct air to the front-face surface in a direction away from parallel, where at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel.

One issue under appeal is whether or not Shinji, Oono, Kazuya or their combination disclose or suggest positioning air blowing means above a front-face surface of a plasma display panel to direct air to the front-face surface in a direction away from parallel, where at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel, as required by claim 1.

A telephone interview was conducted on January 25, 2010 with Examiner Hanley and Supervisor Ton. During the course of the interview, differences between Shinji, Oono, Kazuya and Appellants' claim 1 were discussed. The Examiner suggested clarifying the relative position of the air blowing means above the plasma display panel. Appellants' representative suggested amending claim 1 to recite that the air blowing means is within the perimeter of the plasma display panel. The Examiner suggested amending claim 1 to include that a vector normal to the front-

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face surface of the plasma display panel intersects the air blowing means, and that this amendment appears to overcome the cited art.

Based on the telephone interview, Appellants subsequently submitted a response dated March 22, 2010, to the previous Office Action, including amended independent claims 1 and 6 and new independent claims 15 and 16. Independent claims 1 and 6 were amended to recite that at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel. New independent claims 15 and 16 recited that a vector normal to the front-face surface of the plasma display panel intersects the air blowing means, as suggested by the Examiner during the telephone interview.

On page 6, paragraph 16 of the present Office Action, the Examiner agrees that the above-indicated features of claims 1, 6, 15 and 16 are not taught by the cited art. However, the Examiner argues that these indicated features are an engineering design choice and that the "amount of air flow required, the direction of air flow, and the position of the air blowing means is routine optimization." (See page 6, paragraph 16 of the Office Action. See also page 4, paragraphs 8 and 9 of the Office Action.)

Appellants respectfully disagree. For a reference to be properly used against Appellants' claim 1, the reference would need to disclose or suggest positioning air blowing means above a front-face surface of a plasma display panel to direct air to the front-face surface in a direction away from parallel, where at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel. As will be described further below, although Shinji teaches a fan, Shinji is completely silent regarding a position of the fan relative to a plasma display panel or that the fan is changed (with time) in at least one of the direction or the amount of air blown during the aging process. Oono and Kazuya do not disclose or suggest that at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel.

Appellants will next describe the aging room of Shinji. Shinji disclose, in Fig. 2, aging room 2 for aging panels that is applied to tray 11 (paragraph [0015] of the machine translation). At paragraph [0023], Shinji disclose including a fan in

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aging room 2 for cooling aging room 2 during the aging period. At paragraph [0028] (of the machine translation), Shinji et disclose that tray 11 is equipped with a fan for cooling.

Thus, Shinji discloses: 1) a fan for cooling aging room 2 and 2) that tray 11 is equipped with a fan for cooling. However, Shinji does not disclose or suggest the positioning of the fan relative to a plasma display panel. Furthermore, Shinji does not disclose or suggest how the fan is operated during the aging process.

As acknowledged by the Examiner on page 3, paragraph 5 of the present Office Action, Shinji does not disclose or suggest: 1) changing at least one of the direction or amount of air blown from the air blowing means during the aging process, 2) positioning the air blowing means above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface and 3) that at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel, as required by claim 1. Accordingly, Shinji does not include all of the features of claim 1.

It is submitted that Oono does not make up for the deficiencies of Shinji with respect to claim 1. Oono discloses, in Figs. 1 and 2, a cooling structure of a circuit board including fan 6 positioned below the edge of circuit board 3 and air flow guide 2 for "variably controlling" the blown density of air provided to circuit board 3 (Claims and Description of Numerals and Signs of Main Parts).

Oono, however, does not disclose or suggest positioning the air blowing means above a front-face surface of a plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface, where at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel, as required by claim 1 (emphasis added). Instead, Oono discloses that fan 6 is positioned below circuit board 3 and air flow guide 2, for redirecting the blown density of air provided to circuit board 3 (Figs. 1 and 2). Because fan 6 is positioned below circuit board 3, the air is directed parallel to the surface of the circuit board (i.e., to. an edge of circuit board 3, not to a front-face surface). Accordingly, Oono cannot teach that a portion

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of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel, as required by claim 1. Thus, Oono cannot provide the features of claim 1 which are missing from Shinji.

Moreover, it is submitted that Kazuya does not make up for the deficiencies of Shinji and Oono with respect to claim 1. Kazuya discloses, in Figs. 1-3, a cooling structure for uniformly cooling a plurality of printed boards 15 that are stored in parallel with each other in bin 11. The cooling structure includes fan device 50 mounted below the edges of printed boards 15. Fan device 50 includes a plurality of fan units 5 and a shaft 31 for pivoting fan device 50. (Abstract and [0033] of a machine translation).

Kazuya, however, does not disclose or suggest positioning the air blowing means above a front-face surface of a plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface, where at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel, as required by claim 1 (emphasis added). Instead, Kazuya teaches that fan device 50 directs air parallel to the surface of printed boards 15. Even though fan device 50 pivots, air is still directed from below boards 15, toward an edge of each board (Drawing 2), not to a front-face surface. Accordingly, Kazuya cannot teach that a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel, as required by claim 1. Thus, Kazuya cannot provide the features of claim 1 which are missing from Shinji and Oono.

In summary, both Oono and Kazuya require the fan (fan device) to be positioned below one or more boards, to direct air toward an edge of each board, not to a front-face surface. There is **no suggestion in either Oono or Kazuya to position the fan (fan device) in any position other than below the boards.**

Furthermore, **Shinji is completely silent regarding a position of a fan relative to a plasma display panel.**

Appellants respectfully note that the "mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art

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must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device" (emphasis added). (See MPEP §2144.04 (VI.C).)

Accordingly, Appellants respectfully submit that the prior art **fails to provide any motivation or reason to modify** the position of the fan (fan device) taught by Oono and Kazuya, such that the fan (fan device) is positioned above a front-face surface of a plasma display panel of Shinji.

In fact, **the only teaching** of air blowing means above a front-face surface of the plasma display panel, where at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel, **comes from Appellants' own disclosure**. Accordingly, the Examiner is using "hindsight" in order to reject Appellants' claims. A rejection based on hindsight, however, is impermissible. (See MPEP § 2142.)

In summary, none of the cited art disclose or suggest air blowing means above a front-face surface of the plasma display panel, where at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel, as required by claim 1. In addition, none of the cited art provide any motivation or reason to be modified, without the benefit of Appellant's own disclosure. Accordingly, the skilled person would not combine Shinji, with Oono and Kazuya to produce Appellants' claimed invention.

Appellants will now address another issue under appeal with respect to independent claim 1. Appellants submit that Oono does not disclose or suggest changing, during the aging, at least one of the direction or amount of air blown from the air blowing means with time, as required by claim 1.

On page 3, paragraph 6 of the present Office Action, it is asserted that "Oono discloses a fan (6) and an airflow guide (2) that changes the direction of the air to cool a circuit board." Appellants respectfully disagree. For Oono to change the direction of air blown with time, airflow guide 2 would have to rotate or move. However, there is no suggestion in Oono that air flow guide 2 rotates or moves over time. Instead, Oono discloses that the direction of the air flow guide 2 is fixed, as shown in Figs. 3 and 4. The skilled person would understand that, because air flow

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guide 2 is stationary, air flow guide 2 directs air away from a same component over time. (See Fig. 2.) In other words, the phrase "variably controlling," recited in Oono, does not refer to changing the direction of air flow over time, as required by claim 1.

Appellants will now address a further issue under appeal with respect to independent claim 1. Appellants submit that the combination of Oono and Kazuya do not suggest uniformly cooling a plasma display panel, as suggested by the Examiner.

On page 3, paragraph 7 of the present Office Action, the Examiner asserts "it would have been obvious to a person having ordinary skill in the art having Shinji et al., Oono and Kazuya et al. to modify the device of Shinji et al. to include the airflow guide of Oono in order to better cool the panel so as to prevent cracks from forming in the panel and to include fans capable of blowing air toward the PDP in directions other than parallel to the surface of the PDP in order to uniformly cool the PDP," based on paragraph [0025] of Kazuya et al. Appellants respectfully disagree. As discussed above, Oono discloses a fixed airflow guide which directs air away from a component. Thus, **Oono teaches away from uniformly cooling a circuit board**. Accordingly, the skilled person would not combine Oono with Kazuya to uniformly cool a circuit board. Instead, Oono would not be combined with Kazuya, because Oono would prevent components from being cooled. Thus, the combination of Kazuya and Oono is improper.

Accordingly, for the reasons set forth above, allowance of claim 1 is respectfully requested.

Dependent claims 2-5, 11 and 12 are patentable by virtue of their dependency on allowable claim 1.

B. Rejection of claims 6-10, 13 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Shinji in view of Oono and Kazuya.

The aforementioned rejection is respectfully traversed for at least the reasons set forth below.

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Appellants' claim 6 relates to an aging device of a plasma display panel. Particularly, independent claim 6, recites the following:

...the air blowing means being positioned above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface...

...the air blowing means is a means for changing, during an aging, at least one of an air blowing direction or an air blowing amount with time while cooling the plasma display panel...

...at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel.
(Emphasis Added)

Appellants' claim 6 includes features neither disclosed nor suggested by the cited art. Namely, air blowing means positioned above a front-face surface of a plasma display panel to direct air to the front-face surface in a direction away from parallel, where at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel.

One issue under appeal is whether or not Shinji, Oono, Kazuya or their combination disclose or suggest air blowing means positioned above a front-face surface of a plasma display panel to direct air to the front-face surface in a direction away from parallel, where at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel, as required by claim 6.

As discussed above with respect to independent claim 1, **Shinji is completely silent regarding a position of a fan relative to a plasma display panel.** Shinji only teaches that there is a fan for cooling the aging room and that a tray is equipped with a fan for cooling. As discussed above, both Oono and Kazuya require a fan (fan device) to be positioned below one or more boards, to direct air toward an edge of each board, not to a front-face surface. There is **no suggestion in either Oono or Kazuya to position the fan (fan device) in any position other than below the boards.**

Appellants respectfully note that the "mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims

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on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device"" (emphasis added). (See MPEP §2144.04 (VI.C).)

Accordingly, as discussed above with respect to independent claim 1, Appellants respectfully submit that the prior art **fails to provide any motivation or reason to modify** the position of the fan (fan device) taught by Oono and Kazuya, such that the fan (fan device) is positioned above a front-face surface of a plasma display panel of Shinji. In fact, **the only teaching** of air blowing means above a front-face surface of the plasma display panel, where at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel, **comes from Appellants' own disclosure**. Accordingly, the Examiner is using "hindsight" in order to reject Appellants' claims. A rejection based on hindsight, however, is impermissible. (See MPEP § 2142.)

In summary, none of the cited art disclose or suggest air blowing means positioned above a front-face surface of the plasma display panel, where at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel, as required by claim 6. In addition, none of the cited art provide any motivation or reason to be modified, without the benefit of Appellant's own disclosure. Accordingly, the skilled person would not combine Shinji, with Oono and Kazuya to produce Appellants' claimed invention.

Appellants will now address another issue under appeal with respect to independent claim 6. Appellants submit that Oono does not disclose or suggest that the air blowing means is a means for changing, during the aging, at least one of the direction or amount of air blown from the air blowing means with time, as required by claim 6.

As discussed above with respect to independent claim 1, for Oono to change the direction of air blown with time, airflow guide 2 would have to rotate or move. However, there is no suggestion in Oono that air flow guide 2 rotates or moves over time. Instead, Oono discloses that the direction of the air flow guide 2 is fixed, as shown in Figs. 3 and 4. The skilled person would understand that, because

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air flow guide 2 is stationary, air flow guide 2 directs air away from a same component over time. (See Fig. 2.) In other words, the phrase "variably controlling," recited in Oono, does not refer to changing the direction of air flow over time, as required by claim 6.

Appellants will now address a further issue under appeal with respect to independent claim 6. Appellants submit that the combination of Oono and Kazuya do not suggest uniformly cooling a plasma display panel, as suggested by the Examiner.

As discussed above with respect to independent claim 1, Oono discloses a fixed airflow guide which directs air away from a component. Thus, **Oono teaches away from uniformly cooling a circuit board**. Accordingly, the skilled person would not combine Oono with Kazuya to uniformly cool a circuit board. Instead, Oono would not be combined with Kazuya, because Oono would prevent components from being cooled. Thus, the combination of Kazuya and Oono is improper.

Accordingly, for the reasons set forth above, allowance of claim 6 is respectfully requested.

Dependent claims 7-10, 13 and 14 are patentable by virtue of their dependency on allowable claim 6.

C. Rejection of claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Shinji in view of Oono and Kazuya.

The aforementioned rejection is respectfully traversed for at least the reasons set forth below.

Appellants' claim 15 relates to an aging method for performing an aging of a plasma display panel. Particularly, independent claim 15, recites the following:

...positioning the air blowing means above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface...

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cooling the plasma display panel during the aging while changing at least one of the direction or amount of air blown from the air blowing means with time...

...a vector normal to the front-face surface of the plasma display panel intersects the air blowing means. (Emphasis Added)

Appellants' claim 15 includes features neither disclosed nor suggested by the cited art. Namely, positioning air blowing means above a front-face surface of a plasma display panel to direct air to the front-face surface in a direction away from parallel, where a vector normal to the front-face surface of the plasma display panel intersects the air blowing means. As noted above with respect to independent claim 1, it was the Examiner's suggestion to add the vector normal feature in order to overcome the prior art. The Examiner now, however, relies on hindsight from Appellants' own disclosure to argue that the vector normal feature is an engineering design choice.

One issue under appeal is whether or not Shinji, Oono, Kazuya or their combination disclose or suggest positioning air blowing means above a front-face surface of a plasma display panel to direct air to the front-face surface in a direction away from parallel, where a vector normal to the front-face surface of the plasma display panel intersects the air blowing means, as required by claim 15.

As discussed above with respect to independent claim 1, **Shinji is completely silent regarding a position of a fan relative to a plasma display panel.** Shinji only teaches that there is a fan for cooling the aging room and that a tray is equipped with a fan for cooling. As discussed above, both Oono and Kazuya require a fan (fan device) to be positioned below one or more boards, to direct air toward an edge of each board, not to a front-face surface. There is **no suggestion in either Oono or Kazuya to position the fan (fan device) in any position other than below the boards.**

Appellants respectfully note that the "mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of

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appellant's specification, to make the necessary changes in the reference device” (emphasis added). (See MPEP §2144.04 (VI.C).)

Accordingly, as discussed above with respect to independent claim 1, Appellants respectfully submit that the prior art **fails to provide any motivation or reason to modify** the position of the fan (fan device) taught by Oono and Kazuya, such that the fan (fan device) is positioned above a front-face surface of a plasma display panel of Shinji. In fact, **the only teaching** of positioning air blowing means above a front-face surface of the plasma display panel, where a vector normal to the front-face surface of the plasma display panel intersects the air blowing means, **comes from Appellants' own disclosure**. Accordingly, the Examiner is using “hindsight” in order to reject Appellants' claims. A rejection based on hindsight, however, is impermissible. (See MPEP § 2142.)

In summary, none of the cited art disclose or suggest positioning air blowing means above a front-face surface of the plasma display panel, where a vector normal to the front-face surface of the plasma display panel intersects the air blowing means, as required by claim 15. In addition, none of the cited art provide any motivation or reason to be modified, without the benefit of Appellant's own disclosure. Accordingly, the skilled person would not combine Shinji, with Oono and Kazuya to produce Appellants' claimed invention.

Appellants will now address another issue under appeal with respect to independent claim 15. Appellants submit that Oono does not disclose or suggest changing, during the aging, at least one of the direction or amount of air blown from the air blowing means with time, as required by claim 15.

As discussed above with respect to independent claim 1, for Oono to change the direction of air blown with time, airflow guide 2 would have to rotate or move. However, there is no suggestion in Oono that air flow guide 2 rotates or moves over time. Instead, Oono discloses that the direction of the air flow guide 2 is fixed, as shown in Figs. 3 and 4. The skilled person would understand that, because air flow guide 2 is stationary, air flow guide 2 directs air away from a same component over time. (See Fig. 2.) In other words, the phrase “variably

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controlling," recited in Oono, does not refer to changing the direction of air flow over time, as required by claim 15.

Appellants will now address a further issue under appeal with respect to independent claim 15. Appellants submit that the combination of Oono and Kazuya do not suggest uniformly cooling a plasma display panel, as suggested by the Examiner.

As discussed above with respect to independent claim 1, Oono discloses a fixed airflow guide which directs air away from a component. Thus, **Oono teaches away from uniformly cooling a circuit board**. Accordingly, the skilled person would not combine Oono with Kazuya to uniformly cool a circuit board. Instead, Oono would not be combined with Kazuya, because Oono would prevent components from being cooled. Thus, the combination of Kazuya and Oono is improper.

Accordingly, for the reasons set forth above, allowance of claim 15 is respectfully requested.

D. Rejection of claim 16 under 35 U.S.C. § 103(a) as being unpatentable over Shinji in view of Oono and Kazuya.

The aforementioned rejection is respectfully traversed for at least the reasons set forth below.

Appellants' claim 16 relates to an aging device of a plasma display panel. Particularly, independent claim 16, recites the following:

...the air blowing means being positioned above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface...

...the air blowing means is a means for changing, during an aging, at least one of an air blowing direction or an air blowing amount with time while cooling the plasma display panel...

...a vector normal to the front-face surface of the plasma display panel intersects the air blowing means. (Emphasis Added)

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Appellants' claim 16 includes features neither disclosed nor suggested by the cited art. Namely, air blowing means positioned above a front-face surface of a plasma display panel to direct air to the front-face surface in a direction away from parallel, where a vector normal to the front-face surface of the plasma display panel intersects the air blowing means. As noted above with respect to independent claim 1, it was the Examiner's suggestion to add the vector normal feature in order to overcome the prior art. The Examiner now, however, relies on hindsight from Appellants' own disclosure to argue that the vector normal feature is an engineering design choice.

One issue under appeal is whether or not Shinji, Oono, Kazuya or their combination disclose or suggest air blowing means positioned above a front-face surface of a plasma display panel to direct air to the front-face surface in a direction away from parallel, where a vector normal to the front-face surface of the plasma display panel intersects the air blowing means, as required by claim 16.

As discussed above with respect to independent claim 1, **Shinji is completely silent regarding a position of a fan relative to a plasma display panel**. Shinji only teaches that there is a fan for cooling the aging room and that a tray is equipped with a fan for cooling. As discussed above, both Oono and Kazuya require a fan (fan device) to be positioned below one or more boards, to direct air toward an edge of each board, not to a front-face surface. There is **no suggestion in either Oono or Kazuya to position the fan (fan device) in any position other than below the boards**.

Appellants respectfully note that the "mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device" (emphasis added). (See MPEP §2144.04 (VI.C).)

Accordingly, as discussed above with respect to independent claim 1, Appellants respectfully submit that the prior art **fails to provide any motivation or reason to modify** the position of the fan (fan device) taught by Oono and Kazuya,

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such that the fan (fan device) is positioned above a front-face surface of a plasma display panel of Shinji. In fact, **the only teaching** of air blowing means above a front-face surface of the plasma display panel, where a vector normal to the front-face surface of the plasma display panel intersects the air blowing means, **comes from Appellants' own disclosure**. Accordingly, the Examiner is using "hindsight" in order to reject Appellants' claims. A rejection based on hindsight, however, is impermissible. (See MPEP § 2142.)

In summary, none of the cited art disclose or suggest air blowing means positioned above a front-face surface of the plasma display panel, where a vector normal to the front-face surface of the plasma display panel intersects the air blowing means, as required by claim 16. In addition, none of the cited art provide any motivation or reason to be modified, without the benefit of Appellant's own disclosure. Accordingly, the skilled person would not combine Shinji, with Oono and Kazuya to produce Appellants' claimed invention.

Appellants will now address another issue under appeal with respect to independent claim 16. Appellants submit that Oono does not disclose or suggest that the air blowing means is a means for changing, during the aging, at least one of the direction or amount of air blown from the air blowing means with time, as required by claim 16.

As discussed above with respect to independent claim 1, for Oono to change the direction of air blown with time, airflow guide 2 would have to rotate or move. However, there is no suggestion in Oono that air flow guide 2 rotates or moves over time. Instead, Oono discloses that the direction of the air flow guide 2 is fixed, as shown in Figs. 3 and 4. The skilled person would understand that, because air flow guide 2 is stationary, air flow guide 2 directs air away from a same component over time. (See Fig. 2.) In other words, the phrase "variably controlling," recited in Oono, does not refer to changing the direction of air flow over time, as required by claim 16.

Appellants will now address a further issue under appeal with respect to independent claim 16. Appellants submit that the combination of Oono and

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Kazuya do not suggest uniformly cooling a plasma display panel, as suggested by the Examiner.

As discussed above with respect to independent claim 1, Oono discloses a fixed airflow guide which directs air away from a component. Thus, **Oono teaches away from uniformly cooling a circuit board**. Accordingly, the skilled person would not combine Oono with Kazuya to uniformly cool a circuit board. Instead, Oono would not be combined with Kazuya, because Oono would prevent components from being cooled. Thus, the combination of Kazuya and Oono is improper.

Accordingly, for the reasons set forth above, allowance of claim 16 is respectfully requested.

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VIII. APPENDIX OF CLAIMS

1. (Previously Presented) An aging method for performing an aging of a plasma display panel using an aging device including an air blowing means for cooling a plasma display panel, the method comprising:

positioning the air blowing means above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface; and

cooling the plasma display panel during the aging while changing at least one of the direction or amount of air blown from the air blowing means with time,

wherein at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel.

2. (Previously Presented) The aging method of a plasma display panel according to claim 1, wherein the air blowing means includes a plurality of air blowing devices, and an air blowing amount of at least one of the plurality of air blowing devices is changed.

3. (Previously Presented) The aging method of a plasma display panel according to claim 1, wherein the air blowing means includes a plurality of air blowing devices and an air blowing direction changeable means provided between the plurality of air blowing devices and the plasma display panel so that, during the aging, the air blowing direction changeable means changes directions of air blown from the plurality of air blowing devices.

4. (Previously Presented) The aging method of a plasma display panel according to claim 1, wherein the air blowing means includes a plurality of air blowing devices so that, during the aging, at least one of the plurality of air blowing devices is moved.

5. (Previously Presented) The aging method of a plasma display panel according to claim 1, wherein the air blowing means includes a plurality of air blowing devices so that, during the aging, at least one of the plurality of air blowing devices changes in a direction.

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6. (Previously Presented) An aging device of a plasma display panel, comprising:

an air blowing means for cooling a plasma display panel and an aging power source for applying a predetermined voltage to the plasma display panel to cause an aging electric discharge, the air blowing means being positioned above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface,

wherein the air blowing means is a means for changing, during an aging, at least one of an air blowing direction or an air blowing amount with time while cooling the plasma display panel, and

at least a portion of the air blowing means is disposed within an area defined by the perimeter of the plasma display panel.

7. (Previously Presented) The aging device of a plasma display panel according to claim 6, wherein the air blowing means includes a plurality of air blowing devices, and

the air blowing means is a means for changing, during the aging, the air blowing amount of at least one of the plurality of air blowing devices.

8. (Previously Presented) The aging device of a plasma display panel according to claim 6, wherein the air blowing means includes a plurality of air blowing devices and an air blowing direction changeable means provided between the plurality of air blowing devices and the plasma display panel, and

the air blowing means is a means for using, during the aging, the air blowing direction changeable means to change the direction of air blown from the plurality of air blowing devices.

9. (Previously Presented) The aging device of a plasma display panel according to claim 6, wherein the air blowing means includes a plurality of air blowing devices, and

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the air blowing means is a means for moving, during the aging, at least one of the plurality of air blowing devices.

10. (Previously Presented) The aging device of a plasma display panel according to claim 6, wherein the air blowing means includes a plurality of air blowing devices, and

the air blowing means is a means for changing, during the aging, the direction of at least one of the plurality of air blowing devices.

11. (Previously Presented) The aging method of a plasma display panel according to claim 1, wherein the cooling of the plasma display panel during the aging includes changing the direction of air blown from the air blowing means from a first direction to at least a second direction.

12. (Previously Presented) The aging method of a plasma display panel according to claim 1, wherein the cooling of the plasma display panel during the aging includes changing the amount of air blown from the air blowing means by at least one additional amount.

13. (Previously Presented) The aging device of a plasma display panel according to claim 6, wherein the air blowing means is configured to change the air blowing direction from a first direction to at least a second direction.

14. (Previously Presented) The aging device of a plasma display panel according to claim 6, wherein the air blowing means is configured to change the air blowing amount by at least one additional amount.

15. (Previously Presented) An aging method for performing an aging of a plasma display panel using an aging device including an air blowing means for cooling a plasma display panel, the method comprising:

positioning the air blowing means above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface; and

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cooling the plasma display panel during the aging while changing at least one of the direction or amount of air blown from the air blowing means with time,

wherein a vector normal to the front-face surface of the plasma display panel intersects the air blowing means.

16. (Previously Presented) An aging device of a plasma display panel, comprising:

an air blowing means for cooling a plasma display panel and an aging power source for applying a predetermined voltage to the plasma display panel to cause an aging electric discharge, the air blowing means being positioned above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface,

wherein the air blowing means is a means for changing, during an aging, at least one of an air blowing direction or an air blowing amount with time while cooling the plasma display panel, and

a vector normal to the front-face surface of the plasma display panel intersects the air blowing means.

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IX. EVIDENCE APPENDIX

None

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X. RELATED PROCEEDINGS APPENDIX

None

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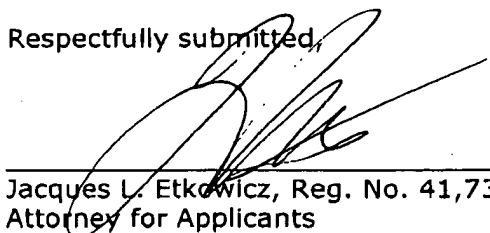
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Conclusion

Allowance of the identified application is respectfully requested.

Respectfully submitted,



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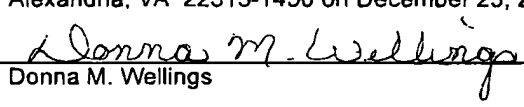
Enclosures: Claims Appendix
Evidence Appendix
Related Proceedings Appendix

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Donna M. Wellings